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OPERATORS MANUAL

series: A.E.S. 1700

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A.E.S. 1700 FOREWORD 0

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OPERATORS MANUAL REV. 06.99 A.E.S. 1700



0.1 USING THE WORKSHOP MANUAL

0.1.1 Importance of the manual

This workshop manual is published for use in "CIM" Service Centers and contains instructions for the servicing, repair and overhaul of **A.E.S.** 1700.

We recommend that you follow all the instructions in this manual scrupulously, as the effectiveness of any servicing operation depends on the correct and methodical application of the information contained herein.

If you run into difficulties or setbacks, **CIM S.p.A. SERVICE DEPARTMENT** will be happy to provide you with the necessary advice and assistance.

CIM S.p.A. declines any liability for any injury or damage resulting from incorrect or unsuitable operations.

CIM S.p.A. reserves the right to make any modifications aimed at improving its products without prior notification.

Please ensure that any amendments or updates you may receive are kept with the original version of this manual.

0.1.2 Conserving the manual

When using the manual, take care not to damage or deface it.

Do not tear or remove pages from the manual, or overwrite any parts of the manual for any reason.

Keep the manual in safe place protected from excess heat and humidity.

0.1.3 Consultation the manual

This manual comprises:

- COVER PAGE IDENTIFYING THE TYPE OF INSERTER
- TABLE OF CONTENTS
- INSTRUCTIONS AND/OR NOTES ON THE PRODUCT

The INSTRUCTIONS AND/OR NOTES ON THE PRODUCT define the safe working practices, correct procedures and skills required to service the inserter machine correctly.

Please note that some of the illustrations in the manual, which are included to help you identify the parts described in the text, show standard engines and therefore may differ in some respects from the inserter machines in your possession.

0.1.4 Symbols used in the manual

The Safety symbols and notices shown below are used throughout this manual to draw the reader's attention to the hazards associated with particular procedures and operations which could result in damage to the inserter machines or personal injury, or to indicate good working practices.



GENERAL OPERATIONAL NOTE

Safety notices (rectangular): you must use the protection shown in the notices when carrying out the operation in question to avoid risk of personal injury:



PROTECT YOUR HANDS (WEAR GLOVES)



PROTECT YOUR EYES (WEAR SAFETY GOGGLES)



PROTECT RESPIRATORY PASSAGES (WEAR A MASK)

Danger warning signs (triangular) (General warning of risk of personal injury or damage to the inserter machines):



ATTENTION! GENERAL DANGER THE MACHINE WHEN AT WORK HAS SEVERAL MOVING UNITS. DO NOT WORK ON THE INSIDE OF THE M A C H I N E . DO NOT REMOVE THE COVER OR GUARDS EXCEPT FOR THE FRONT COVER WHICH IS USED TO LOAD THE PLATES.



DANGER! HIGH TENSION
IT IS FORBIDDDEN TO DO ANY
MAINTENANCE WORK WHILE THE
MACHINE IS UNDER ELECTRICAL
TENSION, TO SUBSTITUTE A FUSE
OR TO DO INTERNAL
MAINTENANCE DISCONNECT THE
POWER SUPPLY AND DO NOT WORK
ON THE POWER LINE.



DANGER (HIGH TEMPERATURE HAZARD - RISK OF BURNS OR DAMAGE TO THE INSERTER MACHINES)

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BE CAREFULL OF YOUR HANDS!
RISK OF BEING CRUSHED OR
STRUCK THE MACHINE IN THE
WOODEN PACKAGE WEIGHS 250 KG
AND THE NET WEIGHT IS 200 KG,
THEREFORE ALL DISPLACEMENTS
SHOULD BE DONE WITH
OPERATING MACHINE AND TWO
PERSONS PRESENT.



ATTENTION! MOVING MACHINE COMPONENTS IF ANY MAINTENANCE WORK HAS TO BE DONE THE TECHNICIAN MUST DISCONNECT THE POWER SUPPLY AND WORK ON THE MACHINE ONLY WHEN IT HAS BEEN STOPPED.

Prohibition notices (circular) denoting operations which are expressly prohibited to avoid risk of personal injury.



THE OPERATION INDICATED IN THE TEXT IS STRICTLY PROHIBITED



IT IS STRICTLY PROHIBITED TO CARRY OUT MAINTENANCE WORK IN THE PRESENCE OF MOVING PARTS.



ITISSTRICTLY FORBIDDEN TO REMOVE THE SAFETY PROTECTION. THESE SAFETY GUARDS SHOULD BE REMOVED ONLY BY SPECIALISED AND AUTHORISED TECHNICAL PERSONS WHO HAVE TAKEN CARE TO ADOPT ALL SECURITY MEASURES TO AVOID ANY RISK OF DANGER AND INJURY.



EARTHED CABLES THISSYMBOLINDICATES THATALL THE CONNECTED CABLES HAVE BEEN EARTHED.



0-8

PAYATTENTION TO THE SYMBOLS AND ADHERE TO THE INSTRUCTIONS IN THE ADJACENT TEXT.

0.2 PROCEDURE FOR UPDATING MANUAL IN CASE OF MODIFICATIONS TO MACHINE

If the <u>MACHINE</u> or <u>MANUAL</u> are <u>MODIFIED</u> in any way, an <u>UPDATE</u> will be sent for insertion into the Manual.

0.3 ORDERING ORIGINAL REPLACEMENT PARTS

To help us provide a fast and efficient service, always specify the following information when ordering replacement parts:

- A.E.S. 1700 type as indicated on nameplate;
- Serial number as indicated on nameplate and stamped on crankcase;
- Quantity of each item required.
- Code of required part.

OPERATORS MANUAL REV. 06.99 A.E.S. 1700



A.E.S. 1700

GENERAL INFORMATION

1



1.0 GENERAL INFORMATION

The A.E.S. 1700 is an automatic feeder (A.E.S. 1700/A) and manual feeder (A.E.S. 1700/M) embossing and punching machine for metallic plates which are used for the identification of industrial products (Ref page 6 chapter 1.4 & 1.5). The various functions are controlled by a microprocessor which manages the internal counters and the storing of data such as formats and texts in an on board CMOS memory. A small backup battery supplies the charge for the memory thus permitting all information to be saved and ready for subsequent use even if the machine has been switched off.

The **A.E.S.** 1700 system contains an Embossing and Punching Unit, a Monitor, a Keyboard and a Personal Computer (not supplied). It can be employed in 2 ways.

OFF-LINE or manual

The **Monitor** and **Keyboard** are only used when the embossing phase is locally defined by the commands of the operator who can decide whether to use a standard printing layout or a personalised one.

The contents of the plates can be inserted free hand or taken from a mask in which case the embossed areas will have been prestored.

There are three counters which can be preset by the operator and which can be automatically incremented. These can also be embossed.

ON-LINE

Monitor and **Keyboard** are both disabled and the embossing's commands are transmitted by Host Computer with the serial interface **RS232** and with **XON/ XOFF**. The embossing layout is defined on the Host Computer with the Software supplied with the equipment.

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1.1 ELECTRICAL SPECIFICATION

	A.E.S. 1700/A	A.E.S. 1700/M		
Power Supply	117V 60Hz	117V 60Hz		
Power Absorbed	450 W	450 W		
Fuse	6,3 A	6,3 A		
Logic	Micropr. a 8 bit	Micropr. a 8 bit		
Backup Power	Lithium Battery 3.6 V	Lithium Battery 3.6 V		
PC Interface	RS 232 Asinc. Progr.	RS 232 Asinc. Progr.		
Baud Rate	Programmable (Default 9600 Baud)	Progammable (Default 9600 Baud)		
Working Noise	Lowerthan 70 dB (A)	Lowerthan 70 dB (A)		

1.2 WORKING CONDITIONS

Operating Temperature	+5° ÷ +40°			
Relative Humidity	30% ÷ 90%			
Storing Temperature	0 ÷ +50°			

1.3 DIMENSIONS AND WEIGHT

	A.E.S. 1700/A	A.E.S. 1700/M
Height	12.2 inc	
Width	24.4 inc	24.4 inc
Depth	26.7 inc	26.7 inc
Weight	60 Kg	50 kg

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1.4 EMBOSSING CAPACITY

Dimension	Width		Height
Minimum	1.2 inc	Χ	1 inc
Maximum	4.55 inc	Χ	3.54 inc
(emboss. area)	4.55 inc	Χ	2.6 inc

1.5 EMBOSSING CAPACITY

The Machine is supplied with 60 or 90 Fonts on Drum.

Plate Thickness 0.016 ÷ 0.038 inc Options 0.049 mm (Dog Tag ecc.) Max Plates Loaded (0.019 inc) 190 Plates

*

The Machine is supplied with 45-60 or 90 Fonts on Drum.

Plate Thickness 0.016 ÷ 0.038 inc
Options 0.049 mm (Dog Tag ecc.)
Max Plates Loaded (0.019 inc) 190 Plates

* ONLY FOR VERSION A.E.S. 1700/M

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1.6 PRECAUTIONS AND USAGE SPECIFICATIONS

The machine should work in a closed room protected from dust and excessive humidity. The machine should be positioned in such a way that its distance from the walls, doors, windows, other machines or working positions garantees immediate access in the case of urgency, maintenance or reparazione.



DONOTINSTALL THIS MACHINE IN THE NEIGHBOURHOOD OF OTHER OPERATING MACHINES WHICH PRODUCE DUST SINCE DUST CAN DEPOSITITSELFINSIDE THE MACHINE AND CAUSE DAMAGE TO THE INTERNAL ELECTRIC DEVICES.



THE MACHINE GENERATES A WORKING NOISE LEVEL OF 70 DB. CERTAIN TYPES OF STEEL PLATES WHICH ARE DIFFICULT TO EMBOSS AND POOR POSITIONING OF THE MACHINE, SUCH AS PLACING IT ON A TABLE WHICH AMPLIFIES THE NOISE, CAN CAUSE THE NOISE LEVEL TO EXCEED THAT SPECIFIED ABOVE. IF THE NOISE LEVEL MEASURED AT A DISTANCE OF ONE METERANDATTHE HEIGHT OF 1.60 M FROM THE GROUND EXCEEDS THE 70 DB. THE OPERATOR MUST WEAR SOME FORM OF EFFICIENT EAR PROTECTION, IN ACCORDANCE WITH THE 86/188/CEE STANDARDS.



THE MACHINE IS FURNISHED WITH SPECIAL SAFETY GUARDS WHICH PROTECT THE OPERATOR FROM COMING INTO CONTACT WITH THE MECHANICAL AND ELECTRICAL PARTS INSIDE THE MACHINE. ONLY **PERSONS** WHO THOSE ARESPECIALISED IN REPAIRS ANDMAINTENANCE AND WHO HAVE BEEN **AUTHORISED SHOULD HAVE ACCESS** TO THE ABOVE MENTIONED PARTS. SIMPLE GENERAL MAINTENANCE CAN BE SAFELY PERFORMED BY THE **OPERATOR SO LONG AS THE MACHINE** HAS BEEN STOPPED AND THE ELECTRICAL POWER SUPPLY HAS BEENDISCONNECTED.

The Machine has been made with fire proof materials thus diminishing the risk of general fire. Short circuit protection has been implemented so that the power supply is immediately isolated thus avoiding unwanted current absorption from the external power line.

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LIQUIDS SHOULD NOT BE PLACED ON THE MACHINE COVER SINCE IT HAS NOT BEEN WATER SEALED. IT IS PARTICOLARLY IMPORTANT TO AVOID OXIDATIONS WHICH WOULD ADD TO THE WEAR AND EROSION OF THE MECHANICAL PARTS.

The machine is provided with warning signs which indicate the Danger Areas. A description of these signals is given in the following page.

The CIM SpA cannot be held responsabile for the consequences of not abiding by these principles when using the machine thus in the case of breadown please call the Technical Assistance.

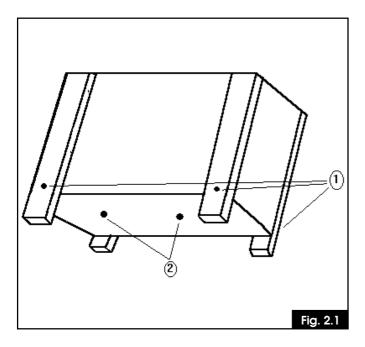


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A.E.S. 1700 UNPACKING 2





2.0 UNPACKING

The machine is delivered in a wooden packing case. This is due to its dimensions and weight and avoids the risk of dammage to the machine. All displacements should be done by a forklift or therefore always by two persons because the gross weight is about 96 kg. for version A.E.S. 1700/A (A.E.S. 1700/M 88 KG.)

To unpack the machine as shown in figure please follow the instructions below.

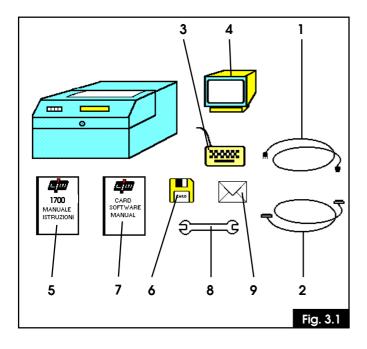
- Remove the four side screws (1) with a 10 mm wrench (es. UNI 6736) and remove the cover.
- Take the 19 mm fork wrench (es. UNI 6736) which fixed on top of the machine by an adhesive band.
- Remove the screws from the bottom of the case (2) with the 19 mm wrench included in the package.
- Having removed the screws the machine can be lifted up and placed on the work table.
 This operation should be done with two persons.
- Once the machine has been finally positioned, the cellophane can be removed. Open the envelope which contains the manuals and the key for the front cover
- Remove the keyboard and with the above mentioned key open the front lid and remove the elastic bands which hold the pincer.
- The Monitor is in a seperate box. Refer to the next paragraph when controlling all the other accessories.

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A.E.S. 1700 INSTALLATION 3





3.1 CHECKING THE ACCESSORIES

Before installing the machine the operator is advised to check that all the accessories are present and that none have been damaged during the transport. If any single element has been damaged the general working of the machine can be compromised.

The following accessories are supplied with the Embosser:

- 1) 1 POWER SUPPLY CABLE + PLUG TYPE PA80
- 2) 1 SERIAL CABLE + CANON PLUGS 9-25 PIN
- 3) 1 KEYBOARD + PLUG DIN 5 POLES
- 4) 1 MONITOR + CABLE AND RCA PLUG
- 5) 1 USER MANUAL
- 6) 1 UPDATED SOFTWARE DISK
- 7) 1 MANUAL OF THE SOFTWARE INCLUDED
- 8) 1 19 MM FORK WRENCH
- 9) 1 ENVELOPE WITH KEY FOR TECHNICAL USE



WARNING! THE EMBOSSING MACHINE WEIGHS 60 KG. A.E.S. 1700/ A (A.E.S. 1700/M 57 KG.) ALL DISPLACEMENTS MUST BE DONE WITH 2 PERSONS.



WARNING! USE ONLY LISTED DETACHABLE POWER SUPPLY CORD NOT EXCEEDING 4.6 M LENGHT, TYPE SVT OR SJT, 3X18 AWG, WITH A MOLDED-ON CORD CONNECTION BODY AND A LISTED PLUG CAP RATED 10A, 125V.

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3.2 ELECTRICAL CONNECTIONS

The installation of the **A.E.S.** 1700 system is easily done. Examine the rear control panel of the cover, (Ref figure 3.2) there are all the sockets for the various connections. Continue as follows:

- Connect the keyboard to the 5 pole Din socket
- Connect the Monitor to the RCA socket
- Connect the serial cable to the Computer and the Embosser
- Connect the power supply cable to the PA 80 socket.

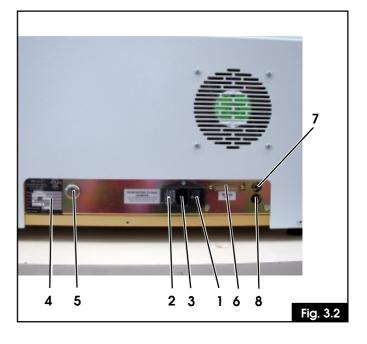


WARNING: IF THE MACHINE IS USED OFF LINE AND LATER IT IS NECESSARY TO WORK WITH THE COMPUTER, REMEMBER TO CONECT THE SERIAL CABLE TO THE MACHINE WHILE IT IS SWITCHED OFF TO AVOID DAMAGING THE CIRCUITS.

- 1. MAIN SWITCH
- 2. FUSE
- 3. SOCKET PA80 FOR MAIN POWER SUPPLY
- 4. IDENTIFICATION PLATE
- 5. KEYSELECTOR FOR TECHNICAL MAINTENANCE
- 6. SERIAL SOCKET FOR PC 25 PIN MALE
- 7. SOCKET TYPE RCA FOR MONITOR
- 8. SOCKET TYPE 5 POLE DIN FOR KEYBOARD

In the package is supplied a envelope with the key for technical use. Since the use of the key allows the machineto work without the security pouse, it is to be used only for the technical maintenance.

The CIM SpA cannot be held responsabile for the consequences of not abiding by these principles when using the machine thus in the case of breadown please call the Technical Assistance.



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3.3 ADVISE AND CARE DURING THE INSTALLATION

- The Identification plate attached to the rear panel contains information about the serial number, the type of machine, the necessary power supply and the absorbed current. Thus one should verify that the local power supply corrisponds to that stated on the plate.
- Before switching the machine on be sure that all the cables have been connected correctly and that the local power supply corrisponds to that stated on the plate. The plate layout is as follows: (ref. figure 3.3).

After the Trade name the plate has 6 embossed fields as shown below:

Model: Machine model
Type: Embossing mode
Volt: Power Supply
Hz: Frequenzy supply
A: Power absorbed
SN: Serial Number

- If the tension of the power supply should exceed a 20% increase of the base tension the safety fast-blow fuse could short out. In order to substitute it take a flat blade screw driver, remove the power plug and place the blade in the nitch at the bottom of the plug entrance just above the signed area for the fuse. Gently lever the Fuse Block until it can be removed by hand
- In order to garantee a correct functioning of the machine and offer a valid safety level to the operator the machine must be earthed.
 Please ensure that the Embosser is connected to a power supply that has a good earthing and that the computer is also connected to the same line.



WARNING! USE ONLY LISTED DETACHABLE POWER SUPPLY CORD NOT EXCEEDING 4.6 M LENGHT, 18 AWG RATED 10 A.

 The electrolock enables the working mode for the Technician and should be used only by those specialised persons who have been authorised to deal with the maintenance and the reparations.

Connect the appropriate cable with the plug type Cannon 25/9 pin to the serial socket of the computer and control the conection to the serial ports **COM1**, **COM2** in order to report the correct information when configuring the Software.



NOTE: CONNECT THIS CABLE WHEN THE EMBOSSER HAS BEEN SWITCHED OFF.

- Connect the Monitor with its RCA jack to the rearpanel of the Embosser and then connect the power plug to the power supply.
- Connect the Keyboard to the DIN 5 Pole socket inserting the plug with the indent facing downwards.

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3.4 SWITCHING ON AND CONTROLLING THE DISPLAY

- Having done the above mentioned operations the machine is ready to work so flip the switch (fig 3.2) to 1. This will switch the machine

Control that the display is:

For the version **A.E.S.** 1700/**A** (see fig. 3.4) For the version **A.E.S.** 1700/**M** (see fig. 3.5)

Press the START key on front panel this activates a general reset (**ONLY FOR VERSION A.E.S. 1700**/**A**).

if the machine does not start control that the power supply is correctly set and that the main fuse has not been shorted.



NOTE: IF THE DISPLAY IS TURNED ON BUT NOTHING APPEARS ON THE SCREEN SWITCH THE MACHINE OFF AND CALL THE TECHNICAL ASSISTANCE.

For other breakdowns please refer to the appropriate chapter Error Message and Problem Solving





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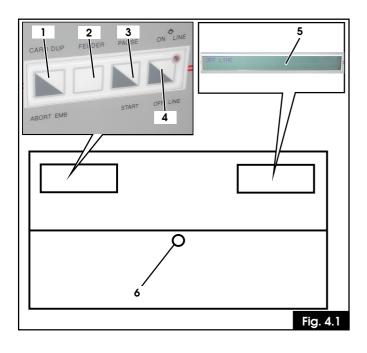


A.E.S. 1700

CONTROL PANEL

4





4.1 CONTROL PANEL

The four keys on the front panel of the cover offer different controls of the embossing cycle to the operator. Here is a brief description of function of each of these keys and of some possible combinations which can enable additional functions.

- 1 CARD DUPLICATOR/ ABORT EMBOSSING
- 2 FEEDER
- 3 PAUSE/START
- 4 KEY UP = OFF LINE (LED OFF) KEY DOWN = ON LINE (LED ON)
- 5 DISPLAY
- 6 KEY FOR OPENING THE FRONT COVER

CARD DUP/ABORT EMB

This key is used to duplicate the plate or to reset the machine in the case of errors during the embossing phase. Refer to a description of the errors.

FEEDER

Restarts the system after the alarm message which states that there are plate to emboss.

PAUSA/START

PAUSA SUSPENDS the current embossing phase,

continues the suspended embossing phase and cancels the alarm messages from the system and those shown on the screen.

ON LINE/OFF LINE

Determines the machine's working mode:

- With the Key up and the led off, the Embosser works OFF-LINE, thus the embossing cycle is managed using the monitor and keyboard.
- With the key down and the led on, the machine works ON-LINE, the masks on the monitor are canceled and the production is then managed by the computer using the CIM application software "CARD". To install the Software please refer to the operator's Manual included in the Kit.

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4.2 ADDITIONAL FUNCTIONS

Pressing the Keys and together the machine prints the values of the mechanical setup.

Pressing the Keys and start together the machine embosses all the characters mounted on the drum.

Pressing the Keys FEED and PAUSA together the display presents the counter of the embossed plates.

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A.E.S. 1700

PLATE LOADING

5



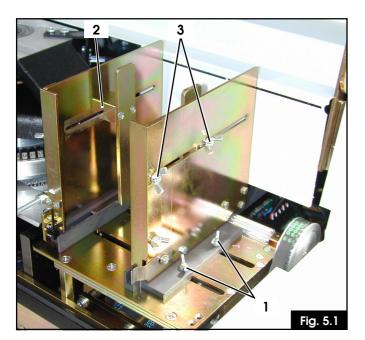
5.1 ONLY FOR VERSION A.E.S. 1700/A

The quality and quantity of the produced plates depend on the correct adjusting of the mechanical units.

- Loader
- Unloader
- Embosser

One should control the state of the above mentioned units at the begining of every work cycle.

The machine should be switched off and the power supply should be disconnected when it is necessary to access any of the internal parts of the machine. The safety protection devices have been constructed to block the machine cyle during the adjusting phase if the preceding standards standards are not respected.



5.1.1 LOADER ADJUSTEMENT

The Loader unit for the metallic plates is located on the right side of the Embosser and can be adjusted to the dimensions of the plates.

To adjust the Loader do as follows:

- Control that the power supply has been disconnected.
- Open the front cover.
- Loosen the wings screws (UNI 5449-68) (1. fig 5.1) on the right side of the Loader.
- Bring the right support closer to the plate to be embossed leaving a tolerance of about 1 mm and then tighten the screws.
 - Loosen the wings screws (1. fig 5.1) of the rear supports (2), slide them to a distance of about 5 mm from the plate and tighten the screws.
- Loosen the wings screws (3) to adjust the plate thickness, pull the plate towards the outside, set the supports 0.017 inc. higher and tighten the screws.

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5.1.2 UNLOADER ADJUSTEMENT

The Unloading unit is located on the left side of the Embosser. There are two different adjustment solutions depending the type of plate and end use:

- Unloader with Lift
- Unloader with Ejector

The first permits a progressive stacking of the plates inside the Embosser and the second ejects the plates out of the Embosser.

5.1.3 UNLOADER LIFT ADJUSTEMENT

To adjust the unloading support refer to fig.5.2 and follow the instructions below:

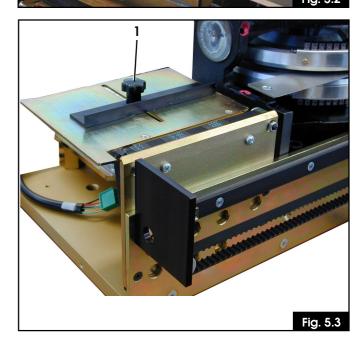
- Control that the power supply has been disconnected.
- Open the front cover.
- Loosen the wings screw on the bottom of the support (4).
- Place the plate on the spring support.
- Shift the right support towards the plate until there is a gap of about 0.039 inc.
- Tighten the screws.
- Loosen the screws (5) and repeat the process mentioned in the Loader section.

5 5 Fig. 5.2

5.1.4 UNLOADER EJECTOR ADJUSTEMENT

In the machines with unloading ejectors there is only one adjustment:

- Loosen the black knob 1 (ref. fig. 5.3) (cilindric nut UNI 5723-67/4A).
- Place a plate on the ejector plane.
- Shift the bracket towards the plate. Leave a gap of a few millimeters between the two.
- Tighten the black knob.



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5.1.5 EMBOSSING PRESSURE ADJUSTEMENT

The machine is configured by the constructor in the final testing phase for the production of alluminium plates of thickness 0.017 inc..

For steel plates or for plates of greater thickness it is necessary to increase the embossing pressure and this is done as follows:

- Lift the front cover, the adjustment knob is located in the center of the machine above the drum (Ref fig.5.4). In order to increase the embossing pressure it is necessary to loosen the nut (1) which blocks the knob (2). This is done with a 13 mm wrench. Next observing the notches on the knob turn the knob a few degrees in a clockwise direction. Now tighten the nut. To diminish the pressure one reverses this process turning the knob in the anticlockwise direction.
- Once the pressure has been adjusted it is advisable to emboss a plate in order to control that the result is perfectly even. If this not the case one should repeat the operation until the desired result is obtained.

An inappropriate adjustment can compromise the general working of the embosser. It is advisable to have this adjustment done by a qualified person or by the Technical Assistance.

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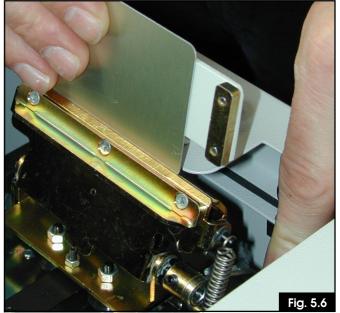
5.2 ONLY FOR VERSION A.E.S. 1700/M

The loading and the unloading of the embossing plates must be done manually for the **AES 1700/M** Embosser opening the front cover so that the Clamp is accessible. Ref fig.5.5.



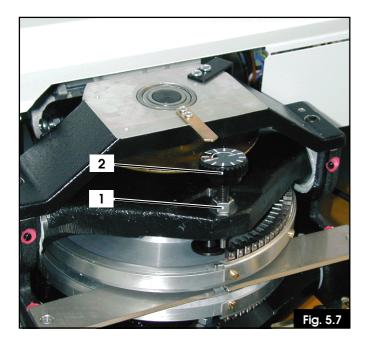
Take hold of the clamp and rotate it upwards and open it using the black knob which is on the left. Ref fig. 5.6.

Now insert a plate in the pincer gap, close the clamp, reposition the clamp in the home position and close the front cover. The machine is now ready to emboss the plate. When the embossing is finished the plate is in the initial position, to remove it one must open the front cover and repeat the previous instructions.



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5.2.1 EMBOSSING PRESSURE ADJUSTEMENT

The machine is configured by the constructor in the final testing phase for the production of alluminium plates of thickness 0.017 inc..

For steel plates or for plates of greater thickness it is necessary to increase the embossing pressure and this is done as follows:

- Lift the front cover, the adjustment knob is located in the center of the machine above the drum (Ref fig.5.7). In order to increase the embossing pressure it is necessary to loosen the nut (1) which blocks the knob (2). This is done with a 13 mm wrench. Next observing the notches on the knob turn the knob a few degrees in a clockwise direction. Now tighten the nut. To diminish the pressure one reverses this process turning the knob in the anticlockwise direction.
- Once the pressure has been adjusted it is advisable to emboss a plate in order to control that the result is perfectly even. If this not the case one should repeat the operation until the desired result is obtained.

An inappropriate adjustment can compromise the general working of the embosser. It is advisable to have this adjustment done by a qualified person or by the Technical Assistance.

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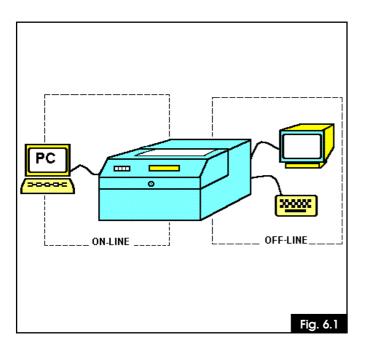


A.E.S. 1700

OPERATIONAL MODES

6





6.0 OPERATIONAL MODES

Layout of the possible operational modes
The Embosser AES 1700 can work in two modes:

OFF-LINE

The Embosser is connected to a monochrome monitor and to a keyboard. The production of the plates is managed directly by the operator.

ON-LINE

The Embosser is connected to a computer by a RS 232 serial cable and the production of the plates is managed by a Database prepared by the resident Software.

The surface area of the metallic plates is considered to be similar to a grid and divided up into rows and columns, these being appropriately spaced out to suit the size of the emboss character.

Note the following definitions:

EMBOSSING MASK The general organisation of the plate layout.

EMBOSSING FORMAT The dimensions of the various rows expressed in tenths of millimeters (or inches) in which the plate has been divided. These are called FIELDS.

EMBOSSING FIELDS These contain the text which one wishes to emboss on each row. One can input fixed texts or variable texts. There are a maximum of 15 fields available.

6.1 WORKING OFF-LINE

The production of a plate can be divided into 3 phases:

- The creation of the mask
- The insertion and storing of the data
- The commands to start the production and to define the number of plates to be embossed.

Thus it is necessary to understand the information visualised on the Monitor and how to use the various function keys of the keyboard.

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6.2 OFF-LINE FUNCTION

The machine is configured to load the **Format 0** when switched on thus the following screen will appear on the monitor.

OFF LINE EMBO	OSS		(CARD	FREE	FRO	M FO	RMA1	Γ Ο	
	LD NAME	5	10	15	20	25	30	35	40	NAME :
										٦
01	LL									
02	KK									
03	JJ									
04	1.1									
05	нн									
06	G G									
07	FF									
08	EE									
09	D D									
10	СС									
11	ВВ									
12	AA									_
COU	NTERS: 000000000	0	00000	00000) (00000	0000	0		
E-	19 STAND BY STAT	US - P	RESS S	START						Fig. 6.2

The **Format 0** is defined as the Main Format since it is used to store the most commonly used mask.



NOTE: ON SWITCHING ON THE EMBOSSER SIGNALS THE E-19 MESSAGE AND WAITS FOR THE START COMMAND IN ORDER TO DO A GENERAL RESET BEFORE BECOMING OPERATIONAL.

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6.3 THE KEYBOARD FUNCTIONS

The keyboard has a series of function keys. Each key has a different function and in some cases several functions may be associated to a single key. The function will depend on the operational phase in which the key is activated.

A description of the functions is shown below:

- F1 Embosses a plate with variable data. The format is selected by a numerical key from 0 to 6.
- F2 Change the total hight of the plate for on line operational mode.
- This function recalls the last mask used and is already set to accept new input for the embossing data.
- F4 This function, when followed by the number of the desired format, will create a new mask or call a different mask from the one in use.
- This function sets the initial value of the 3 counters which are available for all formats. It is also possible, during the creation of a mask, to insert the preset counter inside the same mask.
- P6 During the creation of a new mask this function will define a OCR field or a different spacing.
- Position the zones which will contain the data.
- F8 Clears all data in the embossing mask.
- the operator to call another one. The Clear Text function is called if the key is pressed 2 times.
- F10 Saves any change of the data in any text, mask or counter. All entered data which has not been confermed by this function will be irremediably lost. This key is also used to run the emboss start command after loading the data.

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During the creation of a mask this function toggles between the area to do with the setting of the coordinate values and the area for the input of the emboss data.

TRL + I Displays the menu with all the functions

Press again to remove it.

TRL + Z Displays the total number of the embossed plates.

on the drum of the machine onto the plate.

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6.4 MASK MAKING

To produce a plate one must make a mask in which there are the format and the emboss text. The diagrams that follow can be used to make it. The data and eventual error messages will be displayed in the lower part of the screen.

One starts the mask production phase with the key [F4]. The machine will display each instruction on the monitor in succession requesting the next instruction when necessary.

The sequence of commands to do this will be shown below for the unexperienced operator.

OPERATOR ACTION	MONITOR	DATA TO INPUT
Push F4	SET MASK TYPE OR FORMAT	Formatnumber
Press a key from 0 to 6	SET MASK FORMAT NAME	Format Name
Input the name max 8 chars then press ENTER .	SET MASK FORMATNAME FIELDS NUMBER FIELDS (01-15) (OLD FIELDS = 12)	Number of field
Input number of fields from 1 to 15 then press ENTER		

Having typed in **ENTER** the requested mask appears on the screen with the number of fields desired and the values of the Y coordinates defined in units of 0.158 inc. for each row.

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Fig. 6.3



The monitor displays the mask which is now ready to accept the other coordinates as indicated in fig 6.3. Here as appear the screen after press **ENTER**.

OFF LINE EMBOSS			SET MASK & FORMAT 1					
FIELD	NAME	YYYY	XXXX	CS	TYPE	MD CHECK	CHAR	NAME:
01	LL	0480	0000	07		0.00	42	
02	KK	0440	0000	07		0.00	42	
03	JJ	0400	0000	07		0.00	42	
04	П	0360	0000	07		0.00	42	
05	HH	0320	0000	07		0.00	42	
06	GG	0280	0000	07		0.00	42	
07	FF	0240	0000	07		0.00	42	
80	EE	0200	0000	07		0.00	42	
09	DD	0160	0000	07		0.00	42	
10	CC	0120	0000	07		0.00	42	
11	BB	0800	0000	07		0.00	42	
12	AA	0040	0000	10	OCR	0.00	36	

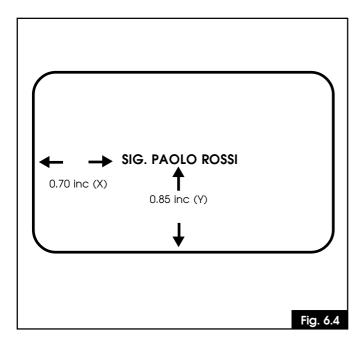
The meaning of the displayed data is as follows:

- FIELD Indicates the number of fields (max 15)
- NAME Name of the field one can insert a name of 8 characters instead of the 2 letters.
- YYYY The vertical embossing coordinate it is measured in tenths of millimeters from the bottom border of the plate to the point where one wishes to emboss
- XXXX The horizontal embossing coordinate it is measured in tenths of millimeters from the
 left border of the plate to the point to where
 one wishes to emboss.
- CS Inter character spacing the system places a default of 07 standard normal characters and for the OCR the value of 10.
- TYPE Indicates the type of character if the field is empty it defaults to standard, otherwise to 'OCR'. The key F6 is used to toggle between one format and another.
- CHAR Indicates the number of characters available in that field.
- MD CHECK: Not available.

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6.5 INPUT OF THE EMBOSSING COORDINATES

In the mask which is now shown the cursor is on the first field. Using the right arrow key, move to the "Y" coordinate:

- Type in the Y value in tenths of millimeters remembering that the minimum possible value is 0.158.
- Type in the X value in tenths of millimeters.
- If the emboss characters are standard leave the CS and TYPE fields as they are.

The example (see fig. 6.4) shows how the mask would appear for one field with the two coordinates. The mask would appear like this:

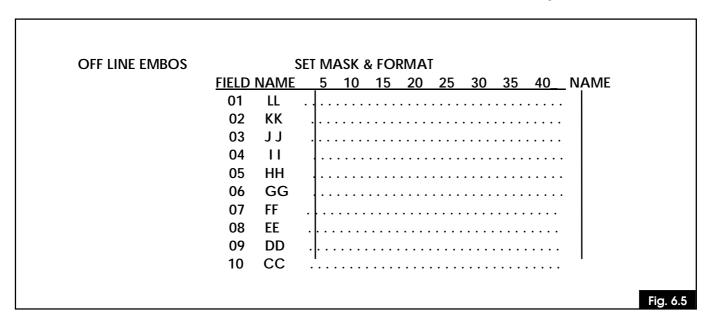
FIELD NAME YYYY XXXX CS TYPE MD CHECK CHAR

01 LL 0215 0180 07 0.00

6.6 INPUT EMBOSS DATA

Once the mask has been recalled, press **ESC** to enter the data insertion phase in which, in each row, one can type in fixed values or using the **F7** key variable data. Thus in the case the default mask is chosen there will be 12 fields in which one can type in the emboss data in the place of the points.

This completed, the mask may be saved by pressing **F10**. The mask dissappears but can be recalled by pressing **F3**. The mask ,when it is ready to receive data, looks fig. 6.5.



The data can typed in by using the \(\subseteq \) to select the desired field and the **ENTER** key is used to conferm the data.

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6.7 EMBOSSING A PLATE FROM A MASK

Switching on the system and pressing **F3** loads the format 0 mask. For this reason it is suggested that this mask is chosen for the most of the time. To load the other masks it is necessary to do the following series of commands:

OPERATOR ACTION	MONITOR	DATA TO INPUT
Press F4	SET MASK TYPE OR FORMAT	Format number
Press a key from 0 to 6	SET MASK FORMAT NAME	Formatname
ENTER	SET MASK FORMATFIELDS	Number or return
ENTER	Mask with co-ordinate (fig.6.3)	go on
ESC	Mask to embosser	Saving the mask
F10	Monitor free	Recall the mask
F3	Emboss mask	Embossing command
F10	THE VALUE OF THE DUP CODE IS 001 CHANGE VALIDATION F10	Number plates and send command
F10		

The machine will now pick up a plate from the loader, emboss it and discharge it in the unloader tray.

The counters will be automatically increased. To duplicate the plate press the key 1 on the front panel.

To move from one mask to another press **F9** and then start again with the routine described above.

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A.E.S. 1700 ON-LINE MODE 7



7.0 ON-LINE MODE

To enable **ON-LINE** mode it is necessary to press the button 2 on the front panel so that the red **LED** is on. The words **ON-LINE** will then appear on the display and on the monitor.

In the **ON-LINE** mode the keyboard and the monitor are disabled and the **AES 1700** system receives all messages from the computer through the asynchronous serial cable with the **RS 232** interface.

7.1 PHYSICAL SPECIFICATIONS OF THE PC CONNECTION

The communication protocol is configured in terms of the client's request during the last factory testing to change it make reference to the "1700 technical manual". The standard characteristics of the machine are as follows:

PROTOCOL CIM

DATA VELOCITY 9600 BAUD

8 BITS PER CHARACTER

1 START 1 STOP 1 PARITY BIT

The connection signals with the computer pass through a connector plug type Cannon 25 pin:

PIN 2 RX DATA Riceive from Embosser.
PIN 3 TX DATA Transmit to Embosser.

PIN 4 RTS OUTPUT for REQUEST TO SEND
PIN 5 CTS INPUT for CLEAR TO SEND

PIN 7 GND Earthing wire

The Embosser is always supplied with a 2 meter cable forstandard serial connections and with a Cannon 25/25 pin connector.

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A.E.S. 1700

TROUBLE SHOOTING

8



In case of breakdown or operator error the machine will show what caused the machine cycle interuption on the display and on the monitor.

The error signal is shown by an error code followed by the corrisponding message.

Please consult the 'Problem Solving' table for more information in order to resolve the problem.

When the error state has been corrected press **START** on the machine or **CTRL + N** on the keyboard to reset the machine.

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8.1 ERROR MESSAGES AND PROBLEM SOLVING (ONLY FOR VERSION 1700/A)

CODE	MSG	POSSIBLE SOLUTION
E-02	LOAD HOPPER-PRESS FEED	Fill the loader with plates
E-03	CARD MISFEED-PRESS CARD FEED	The Loader supports are incorrectly adjusted
E-04	PUNCH MOTOR ERROR-CALL SERVICE	Call technical support
E-06	X ERROR-CHECK CARD/ PRESS START	Clean and oil the trolley rail and control that the trolley moves easily.
E-07	Y ERROR-CHECK CARD/ PRESS START	The clamp has struck a fixed part of the machine. Control the mask coordinates.
E-08	LOST MASKS-BTY OUT- PRESS START	Call technical support
E-09	LOST MASKS-PRESS START (CTRL-N)	Call technical support
E-11	PAUSE EMBOSSING- PRESS START	Close the front cover and press the pause button.
E-12	LOST MASKS-NEW PRG- PRESS START	Call technical support
E-13	CARD MOTOR ERROR- PRESS START	Call technical support
E-14	EMBOSS WHL ERROR- CHECK THE CARD PRESS START FOR RESET OR FEED FOR DUPL.	Check the Dies and try again, if the trouble persists call technical support
E-15	X MOTOR ERROR - CHECK THE CARD PRESS START FOR RESET OR FEED FOR DUPL.	Ref. E-06
E-16	Y MOTOR ERROR - CHECK THE CARD PRESS START FOR RESET OR FEED FOR DUPL.	Ref. E-07
E-17	LOST SEMIPERMAN. DATA- PRESS START	Call technical support
E-18	NO DRUM IN MEMORY - PRESS START TO LOAD THE DEFAULT DRUM CONFIGURATION	Call technical support

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CODE	MSG	POSSIBLE SOLUTION
E-19	POWER ON BY STATUS - PRESS START	Press the Start button.The Embosser runs a Reset and is then ready to work
E-31	BCC ERROR - PRESS START OR FEED	Check Protocol and Software application
E-32	PARITY ERROR - PRESS START OR FEED	Check Protocol and Software application
E-33	NO FIELDS IN MASK - PRESS START/FEED	Ref. on the Software Manual
E-34	CODE ERROR - PRESS START OR FEED	Check Protocol and Software application
E-35	FIELDS OVERFLOW - PRESS START	Ref. on the Software Manual
E-36	BAD FORMAT - PRESS START OR FEED	Ref. on the Software Manual
E-38	LONG FIELD - PRESS START	Ref. on the Software Manual

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8.2 ERROR MESSAGES AND PROBLEM SOLVING (ONLY FOR VERSION 1700/M)

CODE	MSG	POSSIBLE SOLUTION
E-02	LOAD HOPPER-PRESS FEED	Fill the loader with plates
E-03	CARD MISFEED-PRESS START	The Loader supports are incorrectly adjusted
E-04	PUNCH MOTOR ERROR- CALL SERVICE	Call technical support
E-05	WHL ERR-CHECK CARD/ PRESS START	Check the Dies and try again, if the trouble persists call technical support
E-06	X ERROR-CHECK CARD/ PRESS START	Clean and oil the trolley rail and control that the trolley moves easily.
E-07	Y ERROR-CHECK CARD/ PRESS START	The clamp has struck a fixed part of the machine. Control the mask coordinates.
E-08	LOST MASKS-BTY OUT- PRESS START	Call technical support
E-09	LOST MASKS-PRESS START (CTRL-N)	Call technical support
E-11	PAUSE EMBOSSING- PRESS START	Close the door and press the pause button.
E-12	LOST MASKS-NEW PRG- PRESS START	Call technical support
E-13	CARD MOTOR ERROR- PRESS START	Call technical support
E-14	PLEASE CHANGE PLATE PRESS START	The embossing cycles are finish. Change the plate and press start for the next one.
E-15	LOST SEMIPERMAN. DATA-PRESS START	Call technical support
E-16	NO DRUM IN MEMORY - PRESS START TO LOAD THE DEFAULT DRUM CONFIGURATION	Call technical support
E-17	STAND BY STATUS - PRESS START	Press the Start button.The Embosser runs a Reset and is then ready to work

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A.E.S. 1700 MAINTENANCE 9



9.1 MAINTENANCE GENERAL MAINTENANCE BY THE OPERATOR.

The operator should make a habit of doing general maintenance on the Embosser so as to ensure a correct and long lasting functioning of the system. The maintenance should be done with the machine switched off. The operations are simple but formaintenance inside the machine it is necessary to call the Technical Assistance. Thus it is absolutely.



The routine maintenance is as follows:

- After 8 hours of Embossing work from the installationswitch off the machine and remove the power supply cable. Lift up the front cover.

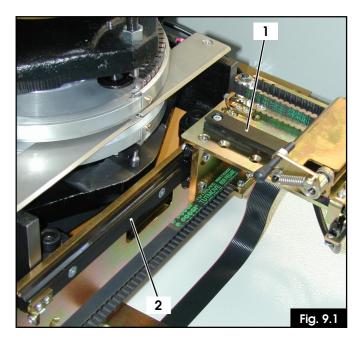
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9.2 TROLLEY-TRUCK OILING

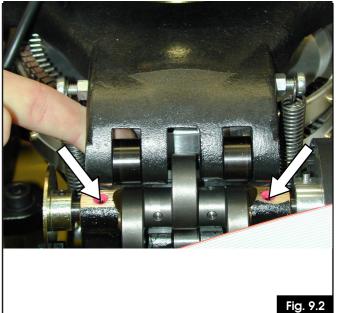
The oiling of the trolley truck should be done with vaseline oil. Refer to the fig. 9.1 and continue:

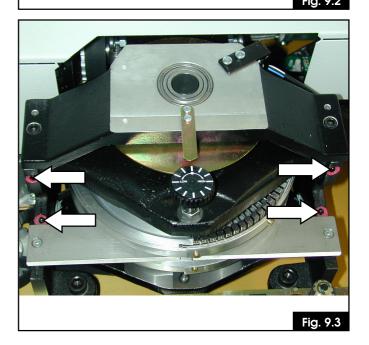
- Oil the clamp's trolley (2) top and bottom moving the trolley by hand back and forth to assure an even distribution of the oil and to control the fluidity of the movement.
- Oil the clamp guide (1) in the same way as above moving the clamp by hand and controlling for unhindered movement. In case of friction or jamming which persists call the Technical Assistance
- Remove any excess oil.



9.3 OILING THE JAWS

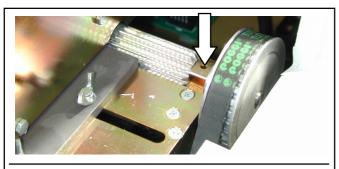
- Refer to fig. 9.2, oil the holes indicated by the arrows that are on the machine. They are painted red and are around the jaws group of the Embosser.
- To oil the points that are behind the jaws is a little difficult because it is contrary to the safety standards to remove the upper cover, but with a long spout on the oiler it can be done.

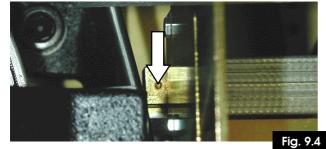




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9.4 PLATE LOADER OILING (ONLY FOR VERSION 1700/A)

Oil the holes of the plate loader group shown in the fig.9.4.

Repeat this operation every 20 days or every 1500 produced plates.

Every 6 months the internal mechanical parts should receive a general oiling. This can be done however only by a specialised person.

When the general maintenance is finished switch the embosser on and control that the front cover blocks all operations. If this not the case call the Technical Assistance because one or more safety devices could be dammaged.

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SETUP DATA

MECHANICAL	_	EPROM				
X Emb		TYPE		C.S	VER	
Y Emb		TYPE		C.S	VER	
X Tot		TYPE		C.S	VER	
Pusher ⊺.		TYPE		C.S	VER	
Y Load						
Y Unload						
PROTOCOL						
CIM	CHP N	MUL	XON	<u> </u>		
SERIAL INTERF	ACE					
BAUD RATE	PARITY	BITS X C.	STOP BITS			

Release 2.10

A.E.S. 1700 REV. 06.99 OPERATORS MANUAL 9-55



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DECLARATIONS OF CONFORMITY

The manufacturer CIM S.p.A. - Via Serra, 2 - 40012 Calderara di Reno - Bologna - Italy, **DECLARES UNDER SOLE RESPONSABILITY THAT THE PRODUCTS**



CIM Metal 1700 A Metal 1700 M

Comply with part 15 of the FCC regulations, Subpart A and B – sections 15.107 (b)(e) and 15.109 (b)(g) – for Class A digital devices

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



UL1950 approved (Safety of Information Technology Equipments) File No. E203983

Calderara di Reno, November 9, 1999

CIM SpA Technical Department



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